Pollution Prevention for the Residential Construction Industry

Pollution Prevention is good business!

Pollution prevention or P2 is about generating less waste and pollutants and increasing efficiency. P2 cost-effectively solves many pollution-related problems associated with waste generation, discharges, and emissions. Every builder employs some pollution prevention techniques discussed in this brochure. Builders may call these techniques simply "good business practices" or "standard operating procedures." The purpose of this brochure is to provide a brief checklist to help identify additional opportunities for improvement.

What is Pollution Prevention (P2)?

P2 is the use of materials, processes, or practices that reduce or eliminate the generation of pollutants or wastes at the source. Include in this definition are practices that reduce the use of materials, energy and water, and practices that, by improving efficiency, indirectly protect natural resources.

Seven reasons why you should be interested in P2:

1. Reduce material use and costs.
2. Cut waste disposal costs and/or trips to the landfill.
3. Improve operations and efficiency.
4. Help comply with environmental regulations.
5. Reduce wastewater discharges and air emissions.
6. Reduce liability and associated costs.
7. Reduce complaints.

P2 in the Residential Construction Industry.

P2 techniques involve more efficient use of materials, energy, and water, reuse, recycling, and best management practices reducing storm water discharge and air emissions. These techniques apply to general operations at a job site and each step of the building process: design and planning, site selection, survey and cleaning, grading and foundation laying, home renovations, framing, utility installation, interior and exterior finishing, and landscaping.

Making changes in your operations requires the understanding and commitment of architects, construction business owners, site managers, employees, and subcontractors. Therefore, the techniques described in this brochure should be started with a program to inform, train, and involve everyone associated with a residential construction project.

Also, you can tell your home buyer about the environmentally friendly building processes and materials available. Home buyers' interest in "environmentally friendly products" has increased significantly over the past several years.

Design and Planning

• Ensure practical design by including architects, builders, and customers in planning.
Experienced builders can determine if a design is feasible.

• Obtain all necessary permits to ensure your job site meets applicable regulatory requirements.

• Develop a waste management plan for the building project; whenever feasible, segregate waste streams such as wood, cardboard, gypsum, plastics, leftover paints, glues, and solvents for reuse on the next project, or recycle.

• Use materials and products that do not consume excessive energy in their manufacture.

• Establish an inventory control system to track supplies and materials. Order new materials only when needed and to meet specific job requirements. Keep exact records of inventory use. Use surplus materials from one job site on another.

• Inspect, label, and date materials upon delivery.
Return materials that do not meet specifications.
Use materials on a "first-in, first-out" basis.

• Store material to prevent damage from exposure to sunlight and moisture. Segregate paint and solvents and hazardous materials to prevent spills and contamination. Keep materials tightly covered.

Site Selection, Survey and Cleaning.

• Reduce site modifications and avoid sites that require extensive cleaning to prevent erosion and land disturbance.

• Conduct thorough and complete site surveys.
This will prevent costly and waste-generating mistakes during construction.

Grading and Foundation Laying.

• Excavate and grade sites to the specified levels, as determined in your original survey. Match final grade to design elevations.

• Control dust generation by wetting unpaved working areas and roadways, remembering to use only the amount of water necessary. This will help prevent dust and action against your site by air pollution control authorities.

• To reduce erosion, strike a balance between grading and foundation construction. Use grading to reduce a site slope where possible.

Home Renovations.

• Segregate demolition wastes as much as possible to ease reuse and recycling.

• Maintain the integrity of the existing framework where possible to reduce the use of raw materials.

• Reuse and refurbish wood and material that are in good condition.

• Ensure that you handle and dispose of asbestos containing debris properly.

Framing.

• Use alternative and engineered wood products and framing systems to increase durability and reduce the use of virgin materials.

• Centralize cutting and framing onsite to promote reuse and recycling of wood cutoffs.

• Segregate reusable wood materials and make use of cutoffs during framing for corners, cripples, blocking, and backing.

Utility Installation

• Use temporary electric service, in preference
to a generator during construction.

• Measure and cut piping to exact lengths.
Thoroughly clean the pipe before bonding and installation to reduce future repair and replacement.

Interior/Exterior Finishing

• Plan roofing material use and size to minimize excess cutoff. Use premanufactured roofing systems, where possible.

• Use low VOC adhesives for linoleum, wood, and carpet floor covering and latex paints to reduce exposure to chemicals in the workplace.

• Install energy efficient appliances and water-conserving faucets and toilets. Use air conditioning units and refrigerator that don' t contain CFC' s.

• Use insulation materials made from recycled glass and newspaper and wood alternatives, such as recycled plastics, made for outdoor applications.

• Purchase drywall with high post-consumer recycled content.

Landscaping

• Plant low maintenance, drought and pest resistant plant species to reduce water, and pesticide use.

• Use organic compost and fertilizers. Avoid petroleum-based fertilizers.

Painting

• Control inventory and store materials to prevent spills and cross contamination.

• Prepare surfaces thoroughly before application.

• Use high transfer-efficiency spray paint equipment and prevent over spray to reduce waste.

• Educate employees on proper management, use and disposal of paints, thinners, and associated waste.

• Use zero and low VOC paints.

Publications

A Guide to Developing Green Builder Programs (1999)
National Association of Home Builders Research Center
400 Prince George's Boulevard
Upper Marlboro, Maryland 20774

Scottsdale's Green Building Program Guide (1998)
Verde Newsletter
City of Scottsdale, Arizona
Anthony Floyd at (602) 312-4202

Sustainable Design: A Planbook for Sonoran Desert Dwellings (1999)
Tucson Instituite for Sustainable Building
P.O. Box 27210
481 W. Paseo Redondo
Tucson, Arizona 85726-7210

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